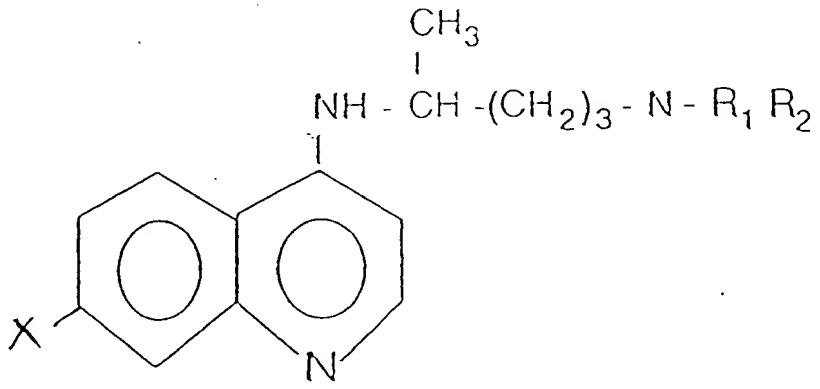
with the proviso that all the free NH_3^+ groups of the said polylysine make up at least 30% of the number of monomers of the skeleton of the polymeric conjugate,

wherein said residues causing destabilization of cell membrane in a weakly acid medium belong to the family of quinolines of the formula:



in which R_1 is hydrogen, R_2 is $-(CH_2)_n-CO_2-H$, X is hydrogen or chlorine and n is an integer from 1 to 10, wherein said recognition signal is selected from the group consisting of:

a) simple osides selected from the group consisting of α or ß conformers of 2-deoxy, 2-amino or 2-deoxy, 2-acetamido neutral monosaccharides; α or ß conformers of glycuronic acid derivatives of neutral monosaccharides; α or ß conformers of L-iduronic acid, of keto-deoxy-octonic acid, of N-acetyl neuraminic acid, or of N-glycoloyl-neuraminic acid; and α or ß conformers of neutral 6-deoxy monosaccharides;

b) a disaccharide selected from the group consisting of lactose and mannopyranosyl α-6-mannopyranose,

c) complex osides selected from the group consisting of Lewis[a],

Lewis^b, Lewis^x, oligomannosides and oligolactosamines and

d) peptides.

Claim 46 (amended) The complex of claim 44 wherein said quinolines are selected from the group consisting of 7-chloro-4-(amino-1-methylbutylamino)-quinoline, N^4-(7-chloro-4-quinolinyl)-1,4-pentanediamine, 8-(4-amino-1-methylbutylamino)-6-methoxyquinoline (pyrimaquine), N^4-(6- methoxy-8-quinolinyl)-1,4-pentanediamine, and pyridines selected from the group consisting of nicotinic acid and quinolenic acid and pterines.

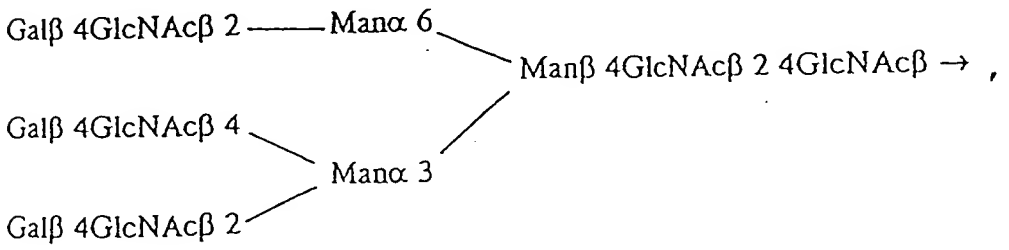
Claim 47 (amended) The complex of claim 45 wherein the free NH_3^+ groups of the polylysine are substituted with a non-charged gluconyl residue causing a reduction in the positive charge of the polymeric conjugate which facilitates salting out of the nucleic acids upon dissociation of the complex.

Claim 49 (amended) The complex of claim 45 wherein:

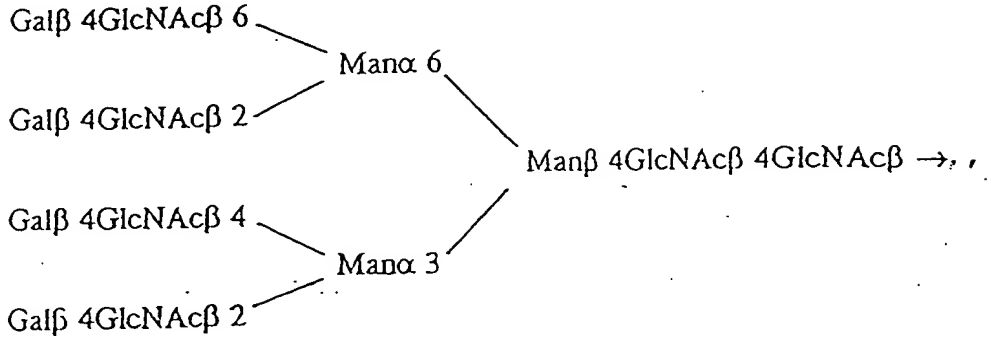
- the monosaccharide is selected from the group consisting of galactose, mannose, fucose, glucose, ribose, xylose and rhamnose and

- the oligosaccharide is selected from the group consisting of

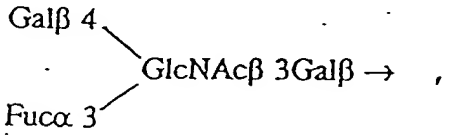
(a) Asialo-oligoside of the type of triantennar lactosamine of



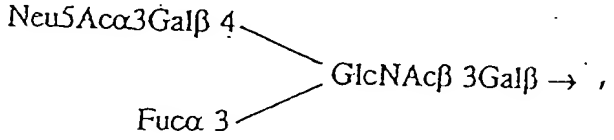
(b) Asialo-oligoside of the type of tetraanetennar lactosamin of the formula



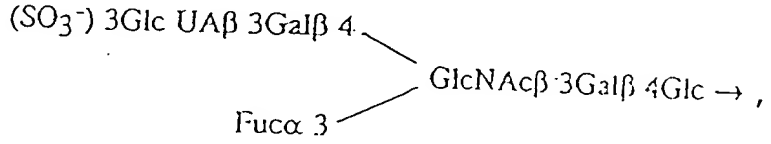
(c) Lewis x of the formula



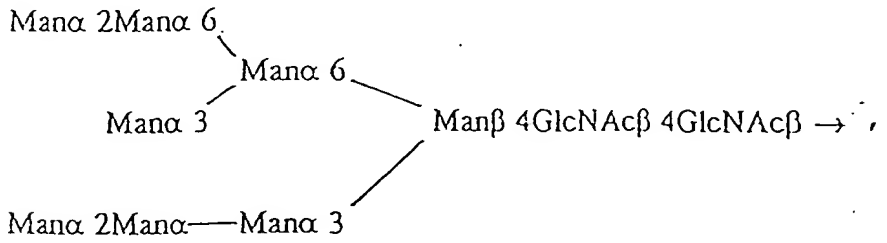
(d) Lewis x sialyl of the formula



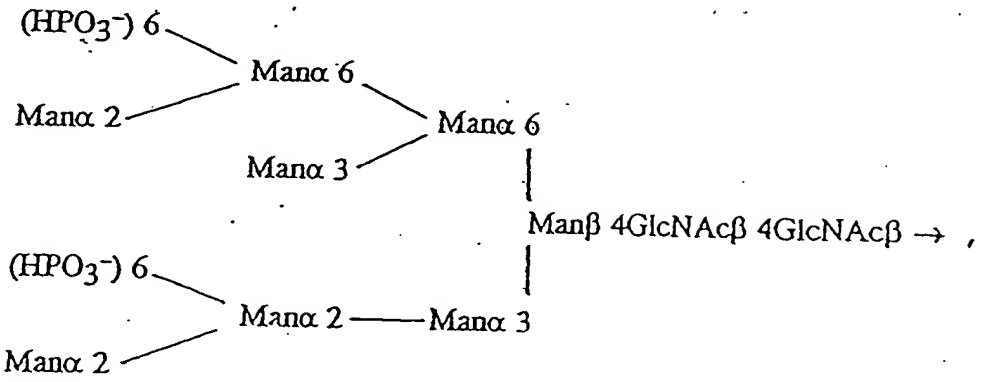
(e) Sulphated Lewis x derivative (HNK1) of the formula



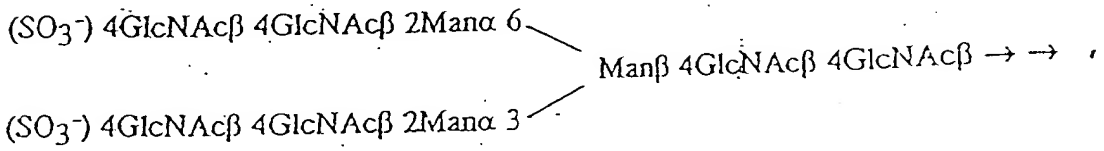
(f) Oligomannoside of the formula



(g) Phosphorylated oligomannoside



(h) Oligosaccharide of the type of sulphated lactosamine of the formula



i. Lactose,

j. Fucα2Gakß3(fucα4)GlcNAcß1Galß3Glc,

k. Fucα4(Gaß3)GlcNAcß3Galß and

l. Manα6-man.

Claim 50 (amended) The complex of claim 49 wherein the peptides are selected from the group consisting of

- vasodilator intestinal polypeptide (VIP)

HSDAVFTDNYTRLRKQMAVKKYLNSILN-NH_2

- antrial natriuretic polypeptide (ANP)

SLRRSSCFGGRMDRIGAQSGLGCNSFRY

- lipocortin

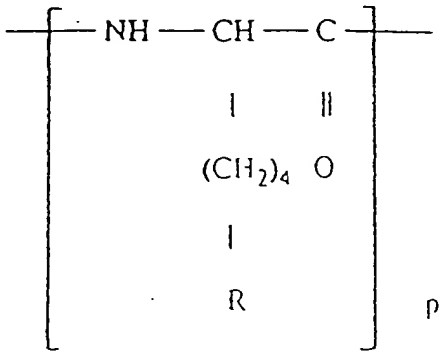
HDMNKVLDL

- bradykinin

RPPGFSPER; 6

peptides of intergrins, peptide hormones and chemotactics factors.

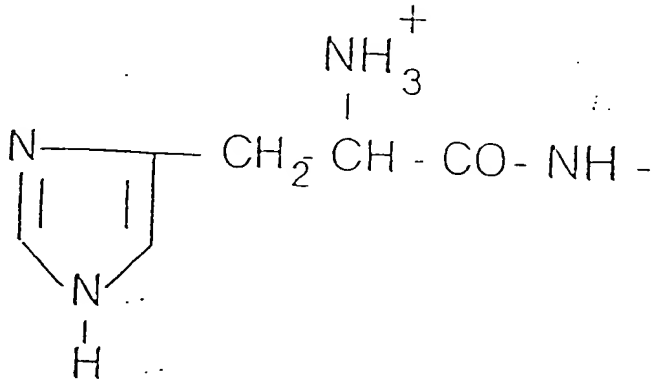
Claim 53 (amended) The complex of claim 51 wherein the polymeric conjugate has the following formula:



wherein:

- p is an integer from 15 to 900,

- 10% to 45% of R is a residue having an imidazole nucleus and optionally a free NH_3^+, R has the formula:



or

- 30% to 90% of the number of R, having free NH_3^+, and 0 to 45% of R are substituted by a molecule which constitutes a recognition signal by a cell membrane receptor,

with the proviso that all the free NH_3^+ functions make up at least 30% of the number of monomer units of the polymeric skeleton of the above mentioned polymeric conjugate.

Claim 56 (amended) The positively charged polymeric conjugate according to claim 55 wherein the free NH_3^+ groups of the polylysine are substituted with a non-charged residue causing a reduction in the positive charge of the polymeric conjugate which facilitates salting out of the nucleic acids upon dissociation of the complex, said non-charged residue being a gluconyl.

Claim 57 (amended) The composition comprising the complex of claim 45 and an inert pharmaceutical carrier.

Claim 58 (amended) A method of transfecting cultured cells comprising incubating said cells in the presence of a composition of claim 57 under conditions wherein said composition enters said cells, and the nucleic acid comprised in the complex of said composition is released to transfect culture cells.

Claim 59 (amended) The method of claim 58 wherein the cells are selected from the group consisting of

-cells of haematopoietic strains;

-dendritic cells;

-liver cells;

-skeletal muscle cells;

-skin cells;

-fibroblasts,

-keratinocytes,

-dendritic cells,